RAIN ATTENUATION COMPENSATION METHOD USING ADAPTIVE TRANSMISSION TECHNIQUE AND SYSTEM USING THE SAME

ABSTRACT OF THE DISCLOSURE

A rain attenuation compensation method using adaptive transmission technique and system using the same compensate a signal attenuation caused by rain in a satellite communication system through an adaptive transmission technique. As an adaptive transmission technique, the method and apparatus employ an adaptive coding using a block turbo code and an adaptive modulation using M-ary PSK modulation. The inventive method estimates a signal-to-noise (S/N) ratio at a receiving end, predicts a signal-to-noise (S/N) ratio at the next time point, allocates the most appropriate transmission method to the predicted signal-to-noise (S/N) ratio, thereby adaptively compensating a rain attenuation. The rain attenuation compensation method includes: the steps of estimating a signal-to-noise (S/N) ratio from PSK-modulated receiving signal at a receiving end; predicting a signal-to-noise (S/N) ratio of the next time point on the basis of the signal-to-noise (S/N) ratio values of the past and present time points; determining which of transmission methods is adequate to the predicted signal-to-noise (S/N) ratio of the next time point. If the switching of the transmission method is determined, a control signal for inquiring the change of the transmission method is transmitted to a transmitting and a receiving end. Then, data is transmitted by the switched transmission method.